

# RACIAL, EDUCATION & INCOME SEGREGATION

in the District of Columbia  
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## INTRODUCTION

Residential segregation persists as a topic of interest for researchers and decision-makers in many fields. What keeps

the conversation active is the question of whether segregation in its various forms and measures has increased or decreased historically. Understanding how racial segregation continues to impact residents of the District of Columbia is an important consideration for policy makers, including those focused on housing.

The city's distribution of affordable housing reflects a legacy of racially discriminatory policies enacted for more than a century. These policies displaced thousands of black residents and concentrated their communities in the eastern sections of the District, referred to as "East of the River." These policies also deepened poverty and generated multiple barriers that have severely limited blacks' access to socio-economic opportunities and kept them out of certain neighborhoods.

This paper uses the U.S. Census Bureau's census tract-level demographic and socio-economic data from 1930 to 2017 to assess whether there has been an increase or decrease in racial, education and income segregation in the District of Columbia (herein referred to as Washington, DC; District; and DC). Recent research<sup>1</sup> has found that to a varying degree black-white segregation has declined in all but 5 of the 51 largest US metropolitan areas. Sunbelt cities like Atlanta, Houston, and Tampa have rapidly integrated. Each has large supplies of affordable housing built after the passage of the Fair Housing Act of 1968, a situation that gives blacks greater access to housing and socio-economic opportunities across those cities, not just in certain areas. Older northeastern and midwestern cities, on the other hand, such as Milwaukee, Chicago, and New York saw declines in segregation but the lasting effects of their legacy of racial segregation policies endured.

This paper provides background and context for the Housing Framework for Equity and Growth (HFEG)<sup>2</sup>. HFEG is an initiative undertaken by the DC Office of Planning and the DC Department of

Housing and Community Development that responds to the Mayor's Order on Housing. Issued in May 2019, the Order set goals of achieving 36,000 new housing units by 2025 and adding 12,000 dedicated affordable units serving a range of low-income residents. The District's Housing Equity Report released by the Mayor in October 2019 used these goals as the basis to develop affordable housing targets for each of the Comprehensive Plan's planning areas with the intent to achieve a much greater housing equity by 2050.

To place the empirical work in context, the scope of this analysis is four-fold:

- It defines segregation and identifies some precedents, tools, causes and effects of segregation.
- It utilizes the dissimilarity index as a measurement of one of the five key dimensions of segregation.
- It examines spatial segregation by race, education and income to assess changes in segregation over time.
- It concludes with a discussion on possible implications for the District of Columbia.

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### Definitions

**Racial segregation:** Racial segregation refers to the residential separation of racial and ethnic groups in different neighborhoods<sup>3</sup>.

**Education Segregation:** Educational segregation refers to the residential separation of groups into different neighborhoods based on their educational attainment<sup>4</sup>.

**Income segregation:** Income segregation is the uneven geographical distribution of income groups within a certain area<sup>5</sup>.

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## WHAT IS SEGREGATION?

Segregation refers to the legal and practical separation of people on the basis of group status,

like race, ethnicity, class, gender, sex, sexuality or nationality, among other things.<sup>6</sup> Segregation in the U.S. has traditionally been synonymous with racial segregation and the practice of treating blacks and other people of color differently and

separating them from whites because of the color of their skin.

After the abolition of slavery in the United States in 1865, millions of formerly enslaved blacks tried to join society as full and equal citizens, which they thought had been enabled by ratification of the 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> Amendments<sup>1</sup> to the Constitution. However, Southern states and local authorities passed a collection of laws mandating the separation of the races. Colloquially referred to as Jim Crow laws (named after a derogatory term for blacks), these rules strictly detailed when, where and how freed slaves could work and for how much compensation. These laws took away their voting rights, controlled where they lived and how they travelled, and legalized seizing their children for forced labor.

Washington, DC had relatively few “Jim Crow” laws.<sup>7</sup> The few existing laws mandated segregation in the public schools and recreation facilities but not in the streetcars and public libraries. African Americans, therefore, reacted strongly to President Wilson’s (1913-1921) institution of segregation across all federal government agencies. In 1948 the Supreme Court declared racially restrictive housing covenants were unconstitutional in the local *Hurd v. Hodge* case. Four years later, in *District of Columbia v. John R. Thompson Co.*, the U.S. Supreme Court ruled that segregation in Washington was unconstitutional based on the 1872 law passed during Reconstruction but long forgotten. By 1954, a local case, *Bolling v. Sharpe*, was part of the landmark *Brown v. Board of Education* Supreme Court decision, which declared separate education was unconstitutional.

## STATE OF SEGREGATION

In 2002, the U.S. Census Bureau reported that black residential segregation declined nationally between 1980

and 2000<sup>8</sup>. However, segregation practices persist in many US cities and communities. Some analysts

<sup>1</sup> Thirteenth Amendment (1865) abolished slavery and involuntary servitude, except as punishment for a crime; the Fourteenth Amendment (1868) extended “equal protection of the laws” to all citizens; and the Fifteenth Amendment (1870) guaranteed that the right to vote could not be denied “on account of race, color, or previous condition of servitude.”

have argued that some aspects of segregation have increased, while others believe they have decreased. Among those who have concluded that segregation has increased are Reardon and Bischoff (2016)<sup>9</sup>, Fry and Taylor (2012)<sup>10</sup>, Logan and Parman (2015)<sup>11</sup>, and Orfield, Frankenberg, Jongyeon and Ayscue (2019)<sup>12</sup>. On the other hand, there are authors who assert that segregation has decreased - among them are Glaeser and Vigdor (2012)<sup>13</sup> and Madden and Ruther (2018)<sup>14</sup>.

Since the focus of this analysis is on segregation in the District of Columbia, one recent study to note is the research conducted by William Frey (2018)<sup>1</sup>. Frey showed that since 2000, black-white segregation has declined only modestly nationally and varies widely across U.S. metropolitan areas. He also concluded that most white residents continue to live in majority white neighborhoods while black neighborhoods have become more diverse, largely due to an increase in Hispanic residents rather than white residents. The findings of this analysis are consistent with Frey’s conclusions that segregated neighborhoods persist in some areas of the District of Columbia and that other areas have grown more diverse since 2000.

## HIGHLIGHTS

### Racial Segregation in DC

- Racial segregation was at its lowest point in 1930 at 57 percent, and at its highest point in 2000 at 78 percent. Meaning, 78 percent of the black population would need to relocate in order to live in fully integrated neighborhoods with whites.
- The available data points to persistent racial segregation in the District although the racial segregation index has trended downward since 2000. The 2013-2017 data showed the racial segregation index was at 67 percent.

### Education Segregation in DC

- Analysis of census data available from 1940 to 2017 indicates an increasing degree of education segregation between District residents with less than or equal to 12 years

of education (no college) and residents with post-secondary schooling (college).

- Education segregation was at its lowest point in 1950 at 30 percent, and at its highest point in 1980 at 60 percent. The 2013-2017 data showed an index of 44 percent, meaning that 44 percent of either group would need to relocate around the District to achieve a uniform distribution.

### Income Segregation in DC

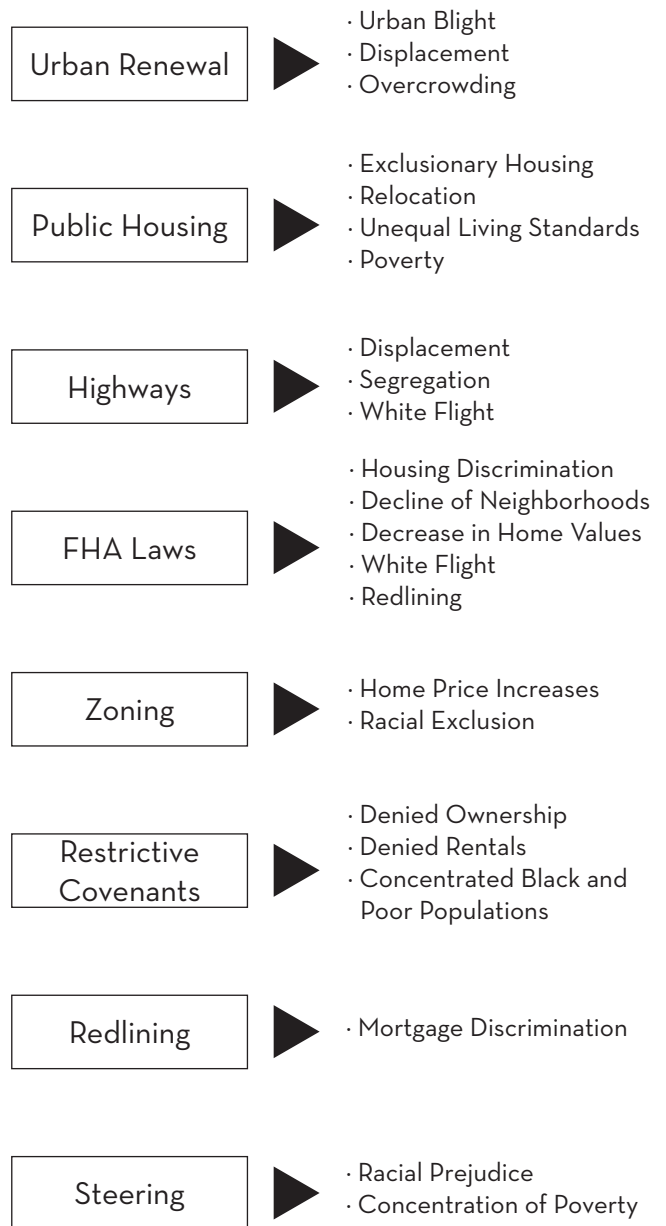
The ratio (r) of the census tract's median household income to that of the District-wide median household income was computed for each census tracts. Based on this ratio, each census tract was classified as affluent ( $r > 1.50\%$ ); high-income ( $1.25\% < r < 1.50\%$ ); middle-income ( $0.80\% < r < 1.25\%$ ); low-income ( $0.67\% < r < 0.80\%$ ); or poor ( $r < 0.67\%$ ).

- The share of poor census tracts (portion of census tracts relative to total census tracts for each decade) has grown steadily over the period. In 1950, 14.6 percent of census tracts were poor. In 2017, 34.6 percent were poor.
- Low-income census tracts declined since 2000. Low-income census tracts dropped from 16.5 percent in 2000 to 5.6 percent in 2017.
- The share of middle-income census tracts declined steadily between 1950 and 2012, with a slight tick upward by the 2013-2017 period.
- The percent of high-income census tracts has remained about the same over the last 67 years, ranging between 8.9 percent to 11.7 percent.
- The share of affluent census tracts grew significantly between 1950 and 1990, dropped sharply between 1990 and 2000 but has since stabilized. Affluent census tracts increased from 9.4 percent in 1950 to 26.7 percent in 1990, then decreased to 16.5 percent in 2000. The share in 2017 was 17.9 percent.

## **SELECTED PRECEDENTS, TOOLS, CAUSES & EFFECTS**

The federal segregation period had a profound and enduring negative impact on DC's black community. The federal government controlled the District's local affairs prior to 1973, so the District directly felt the full effect of

### **Selected Precedents, Tools, Causes & Effects of Segregation**



Source: University of Michigan. Causes of Residential Segregation. <http://www.umich.edu/~lawrace/causes1.htm#>

federal segregation policies. The federal government was the primary driver of segregation-based policies in the District, particularly through public policies and programs related to urban renewal, public housing, highways, access to Federal Housing Administration loans, and zoning and restrictive covenants. However, the private sector, including banking and the real estate sectors, also played significant roles through redlining and steering.



Children at Barry Farms Housing Development in April 1944. Source: Library of Congress.

The above diagram lists eight common categories that can be referred to as precedents, tools and causes related to segregation and some of the harmful effects they had on the population in general and more specifically, the District of Columbia's black community.

**Urban Renewal:** The federal policy of urban renewal, established by the Housing Act of 1949, was a nationwide program that gave cities federal funds to eliminate substandard housing, construct adequate housing, reduce de facto segregation and revitalize city economies. However, most authors have concluded that the practice of urban renewal in the 1950s and 1960s was mostly devastating as crowded slums were cleared, black communities were displaced to even more crowded areas, and housing prices increased dramatically resulting in further urban blight.<sup>15 16 17</sup>

In Washington, DC, the Southwest urban renewal effort was by far the most momentous in the city's

history.<sup>18</sup> In that project, a vibrant but physically run-down community of approximately 4800 structures spread over 111 acres was razed in 1955 and 1956, displacing 23,000 families, mostly black but also Jewish and other ethnic minorities, countless businesses, and community institutions. In the name of reform, a "modern" community would replace the old one, with massive buildings for the expanding federal government, as well as townhomes and high-rise apartment buildings primarily for the burgeoning federal workforce for whom there was a housing shortage. Many of the buildings from the Southwest urban renewal are now more than 50 years old, and a number have been recognized with historic landmark designation.

**Public Housing:** In the Post-World War II era, the Federal government adopted two strategies for addressing the acute housing shortage. It built public housing for the working class and financed mortgages through the Federal Housing Administration (FHA). Public housing authorities initially promoted an

integrationist vision but that soon changed to segregationist policies. Thus, the segregationist policies of the FHA combined with the overwhelming white demand to exclude blacks, prevented the construction of public housing projects in white neighborhoods. Black elected officials recognized the need for housing for their constituents but felt that it would be politically unpopular to advocate for housing integration.

In Washington, DC, since blacks were barred from living in certain areas and thousands of others were displaced by the Alley Dwelling Act (passed in 1934 to eliminate overpopulation and poverty and improve alley dwelling lifestyle, particularly in Foggy Bottom), blacks faced significant housing shortages in the 1930s and 1940s<sup>19</sup>. In response, the chairman of DC's National Park and Planning Commission, Ulysses S. Grant III explicitly called for African Americans to be resettled in semi-rural Anacostia.

In 1941, the National Capital Housing Authority opened the city's first public housing development, Frederick Douglass Dwellings in Southeast Washington, DC. In 1943, it opened Barry Farm, a 432-unit public housing project in Southeast Washington as well. In the 1950s, federally funded "slum clearance" and urban renewal programs changed the face of public housing in DC. Displacement from those areas put tremendous pressures on the public housing system. By the early 1960s, the area around Barry Farm transformed into a low-income, almost entirely black-occupied neighborhood. Residents were isolated and lacked basic local amenities such as grocery stores. By the mid-1960s, Barry Farm fell into significant disrepair when the city stopped providing basic maintenance, including replacing burnt out streetlights in that entire section of Anacostia, all of which only served to exacerbate poverty within the black community<sup>20</sup>.

**Highways:** Federal highways have reinforced segregation in three main ways. First, creating inner city highways were often part of slum clearance projects that destroyed housing predominantly occupied by blacks. Second, the federal government-built highways at the boundaries between white and black neighborhoods, thereby setting up formidable barriers to interracial interaction. Third, the federal

highway policy system provided a key means for supporting white flight to the suburbs, as well as the flight of jobs, leaving blacks behind in economically depressed neighborhoods. In Washington, DC, one hundred and twelve families were displaced by construction of the Suitland Parkway in the early 1940s where some of the first residents of Barry Farm lived.<sup>20</sup>

**FHA Loans:** The Federal government played a key role in shaping the racial composition of the suburbs in the post-WWII era. It financed a substantial percentage of all mortgage loans in the U.S. between 1945-1960, through the Federal Housing Administration and GI Bill. Virtually all these loans went to white homeowners in all-white neighborhoods. Moreover, up until the 1950s, the FHA's underwriting manual all but required the use of racial covenants to ensure the future value of new housing<sup>21</sup>. The Federal government refused to back mortgage loans to prospective owners in integrated, all-black, or racially changing neighborhoods, viewing these homes as having a high risk of declining market value. This contributed to the accelerated decline of many black neighborhoods. In Washington, DC, FHA-insured housing was concentrated west of Rock Creek Park and north of Missouri Avenue. New housing for African Americans was entirely rental apartments and concentrated in Far Northeast and Southeast.

**Zoning:** Zoning was introduced in the U.S. in 1916, marketed as a device by which cities could exclude "undesirable" residents and practice segregation by race and class. Washington, DC's first zoning ordinance was adopted in 1920, after the *Buchanan v. Warley* decision in which the U.S. Supreme Court concurred with the white plaintiff (Buchanan) that racial segregation was unconstitutional in a real-estate case against a black defendant (Warley)<sup>22</sup>. The regulations were largely prepared by consultant Harland Bartholomew, who had developed similar zoning plans in his native St. Louis and in Detroit and Pittsburgh. According to Bartholomew, 'an important goal of St. Louis's zoning was the prevention of movement into 'finer residential districts... by colored people.' To that end, he had supervised the mapping of that city's black households in order to predict where African Americans might be likely to move.



Sign advertising a new housing subdivision with restrictive covenants, 1930. Source: DC Public Library

By 1930, the city's residential zones were applied throughout Washington, DC. In the northwest quadrant, restrictions on residential building type correlated to accessibility to streetcar and bus service. Areas less than a half mile of a public transportation line were zoned B-Restricted or allowed all residential building types. Areas more than a mile from mass transit, and most likely to need the automobile for access, were zoned A-Restricted, allowing only single-family detached houses to be built. Other quadrants of the city were not as carefully planned, often having to adapt to existing conditions. The northeast quadrant, the section with the best access to transit, mixed all three residential zones within a quarter mile of streetcar or bus service. Some areas more than a mile from a transit line had the least restrictive zoning, which allowed apartments, while other areas near transit were A-Restricted. East of the Anacostia River had the least restrictive zoning except for a small area of A-Restricted.

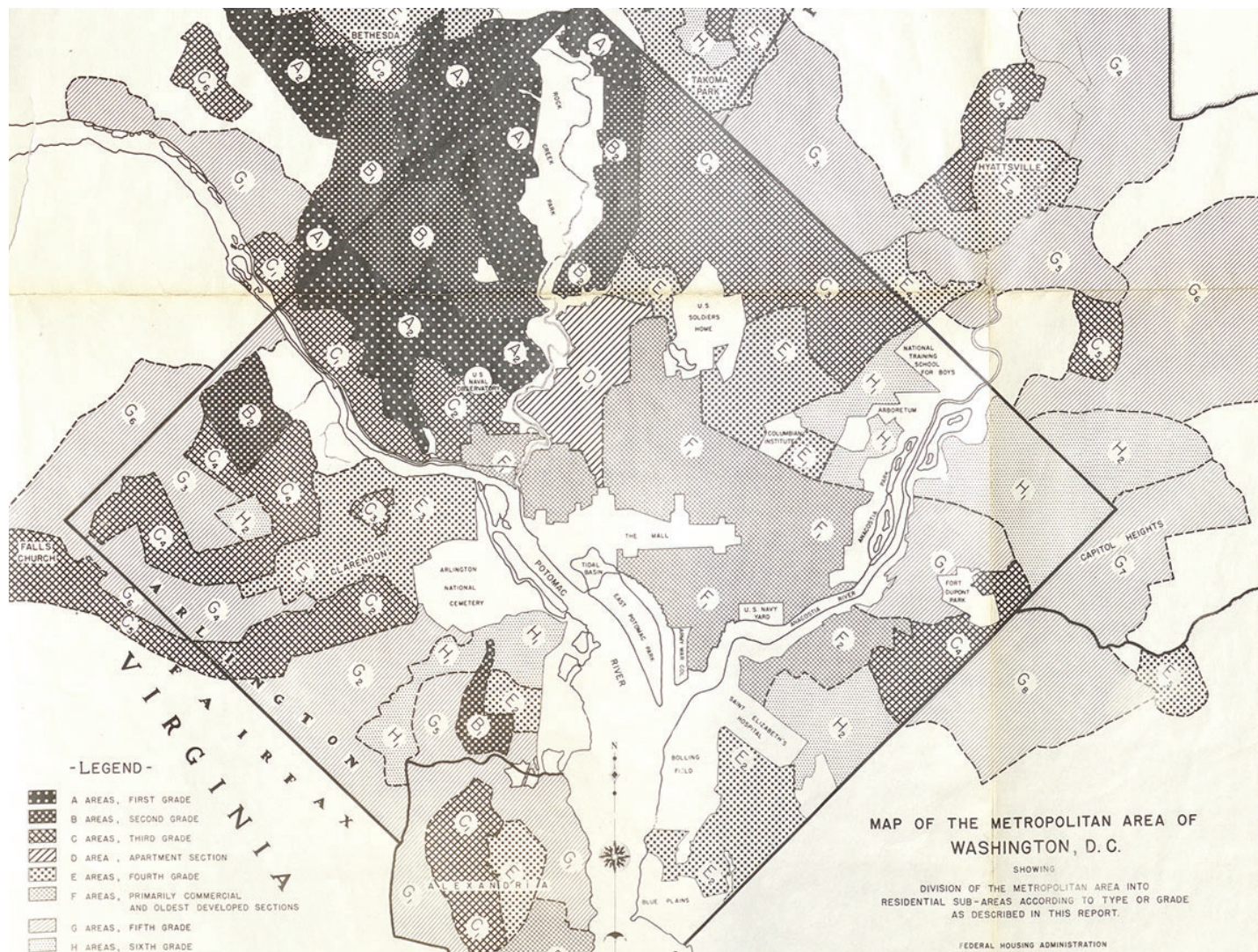
**Restrictive Covenants:** These were privately enforced contracts among property owners in a neighborhood by which all agree not to sell or rent their properties to blacks, Jews, or members of other groups considered undesirable by the contracting practices. Covenants were a common device for

enforcing racial segregation from 1910-1948. The Supreme Court declared restrictive covenants unenforceable in 1948.

The developers of Washington, DC's first suburb, Anacostia, were not content to rely solely upon economic segregation to keep the races separate. Many of the early residents were expected to be Navy Yard employees and thus, not wealthy. Platted as "Union Town" in 1854, the subdivision's lots were sold with restrictive covenants prohibiting the sale, rental or lease of property to "any negro, mulatto, or person of African blood."

Restrictive covenants became much more widespread across the country during the 20<sup>th</sup>-Century. Restrictive covenants were not exclusively used to exclude blacks. For instance, in the Spring Valley neighborhood in Washington DC, such covenants excluded "any person of the Semitic race," including "Armenians, Jews, Hebrews, Persians, and Syrians".

**Redlining:** In 1933, the federally created Home Owners' Loan Corporation (HOLC) created maps that coded areas as credit-worthy based on the race of their occupants and the age of the housing stock. These maps, adopted by the FHA in 1944,



Source: Mapping Segregation DC

established and sanctioned 'redlining'. Residents in predominately non-white neighborhoods were unable to obtain long-term mortgages on their homes because banks would not authorize loans for redlined areas. Unlike their white counterparts, many minorities were therefore deemed ineligible by the federal government to receive the same financing as was made available to whites to purchase homes and thus were excluded from the means necessary to purchase homes in more affluent areas.

In a 1937 Federal Housing Administration report, *Housing Market Analysis*, Washington, DC, neighborhoods were ranked Type A through Type H, in increasing order of perceived risk, with Type A being "the highest grade of residential property... composed of the newer high-class subdivisions, representing the best protection of adverse influences... exclusive residential areas... with an average age of houses not in excess of 10 years.... and

well controlled and restricted by the developers." In contrast, Type F neighborhoods were considered "old solidly built up areas... which have lived their span of life as residential areas and are now declining rapidly into very undesirable sections... subject to commercial encroachment." But Type H sub-areas were defined as of the "lowest grade... developed especially for negroes or... left open for negroes to build themselves.... They represent the very worst of heterogeneous developments.... The sections are more the result of the exploitation of the negro. The only possible future for properties in these areas is that the present scattered structures may be razed, and new planned subdivisions instituted in their place." The entire L'Enfant City and Georgetown were classed "F". Type H sub-areas included today's Ivy City, Arboretum, Gateway, Fort Lincoln, Carver and Langston neighborhoods west of the Anacostia River, and everything lying East of the River and north of Benning Road<sup>22</sup>.



**Steering:** The United States Supreme Court defines steering as ‘a practice by which real estate brokers and agents preserve and encourage patterns of racial segregation in available housing by steering members of racial and ethnic groups to buildings occupied primarily by members of such racial and ethnic groups and away from buildings and neighborhoods inhabited primarily by members of other races or groups.’ The theory supporting steering asserts that real estate agents steer people of color toward neighborhoods that are disproportionately black and/or Hispanic, while white homebuyers are directed to primarily white neighborhoods, continually reinforcing segregation. In some studies, real estate agents present fewer and more inferior options to black homebuyers than they do to whites with the same socioeconomic characteristics.

In March 1912, a group of Washington, DC, real estate agents organized as the Real Estate Brokers’ Association of the District of Columbia, joined the National Association of Real Estate Boards (NAREB) founded four years earlier. The local association reorganized as the Washington Real Estate Board

in 1921. At its seventeenth annual meeting in Washington, the local board is said to have been influential in the insertion of an article stating that “A Realtor should never be instrumental in introducing into a neighborhood a character of property or occupancy, members of any race or nationality, or any individuals whose presence will clearly be detrimental to property values in that neighborhood.”

Bound by the rules of NAREB, the Washington Real Estate Board nonetheless saw a need for its own code, drawn up in 1922 and amended in 1934 and 1947. By 1947, the all-white board had adopted language more explicit in its racial exclusion than that of the national code: “No property in a white section should ever be sold, rented, advertised, or offered to colored people. In a doubtful case advice from the Public Affairs Committee should be obtained.” In practice, the Public Affairs Committee frequently consulted on such questions with the white citizens’ associations. There was no parallel effort to protect the severely constrained black neighborhoods from the encroachment of white purchasers or occupants. Realtors were thus required to openly steer purchasers by race.

In summary, the above stated precedents, tools, causes and effects of racial segregation collectively formed a vicious circle to produce concentrated urban poverty among blacks which reinforced racial prejudice and further fueling white flight from neighborhoods inhabited by or proximate to blacks.

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Source: DC Public Library, Star Collection

## METHODOLOGY

### Segregation Measures

The most often cited researchers on segregation measures are Douglas S. Massey

and Nancy Denton. In 1988, they published an extensive literature review in Oxford Academic Journals - Social Forces entitled “The Dimensions of Residential Segregation.”<sup>23</sup> This article reviewed twenty indices of segregation and related them conceptually to five dimensions, each corresponding to a different aspect of spatial variation: evenness, exposure, concentration, centralization, and clustering.

**Evenness** involves the differential distribution of the subject population; **exposure** measures potential contact; **concentration** refers to the relative amount of physical space occupied; **centralization** indicates the degree to which a group is located near the center of an urban area; and **clustering** measures the degree to which minority group members live disproportionately in contiguous areas.

The present analysis focuses on **evenness** and uses the dissimilarity index, the most widely used measure of evenness. It calculates the percentage of a group’s population that would have to relocate within a city for each neighborhood to have the same percentage of that group as the city overall. The index ranges from 0.0 (complete integration) to 1.0 (complete segregation). This measure can be symbolized as:

### Index of Dissimilarity<sup>23</sup>

$$D = \frac{1}{2} \sum_{i=1}^n \left| \frac{x_i}{XT} - \frac{y_i}{YT} \right|$$

Where:

$n$  = the number of tracts or spatial units

$x_i$  = the number of people in tract  $i$  listed in a race or socio-economic category

$XT$  = total number of people listed in a race or socio-economic category in the city

$y_i$  = the number of people in tract  $i$  listed in a comparative race or socio-economic category

$YT$  = the total number of people listed in a comparative race or socio-economic category in the city

## ANALYSIS

Looking at segregation in the District, population data are analyzed by race using the U.S. Census Bureau,

decennial census tract data from 1930 through 2010, and the more current American Community Survey (ACS) 2013-2017 five-year estimates. This report also examines income segregation (1950-2017) (*detailed income data for 1960 and 1970 were not available*), and education segregation (1940-2017), again using data from the U.S. Census Bureau. All three analyses utilized common measures of segregation as illustrated below.

### Racial Segregation

Racial dissimilarity, that is the value of  $D$  in the dissimilarity index symbolized above, represents the proportion of blacks or whites that would need to change residence in order to create a uniform distribution of the population in the District.

**Table 1** indicates that between 1930 and 2017, there was a high degree of fluctuation in the dissimilarity index between black and white populations across census tracts in the District.

**Table 1. Race Dissimilarity (Segregation) in DC, 1930 to 2017**

Year	Population	White	Black	Index
1930	486,869	353,914	132,068	57%
1940	663,091	474,326	188,765	60%
1950	802,178	517,865	280,803	61%
1960	763,956	345,263	411,737	68%
1970	756,379	209,147	537,694	72%
1980	683,333	171,768	448,906	76%
1990	606,900	179,667	399,604	77%
2000	572,059	176,101	343,312	78%
2010	584,407	231,471	305,125	71%
2017	672,391	273,471	321,062	67%

Source: DC Office of Planning Historical Census Data; ACS 2013-2017



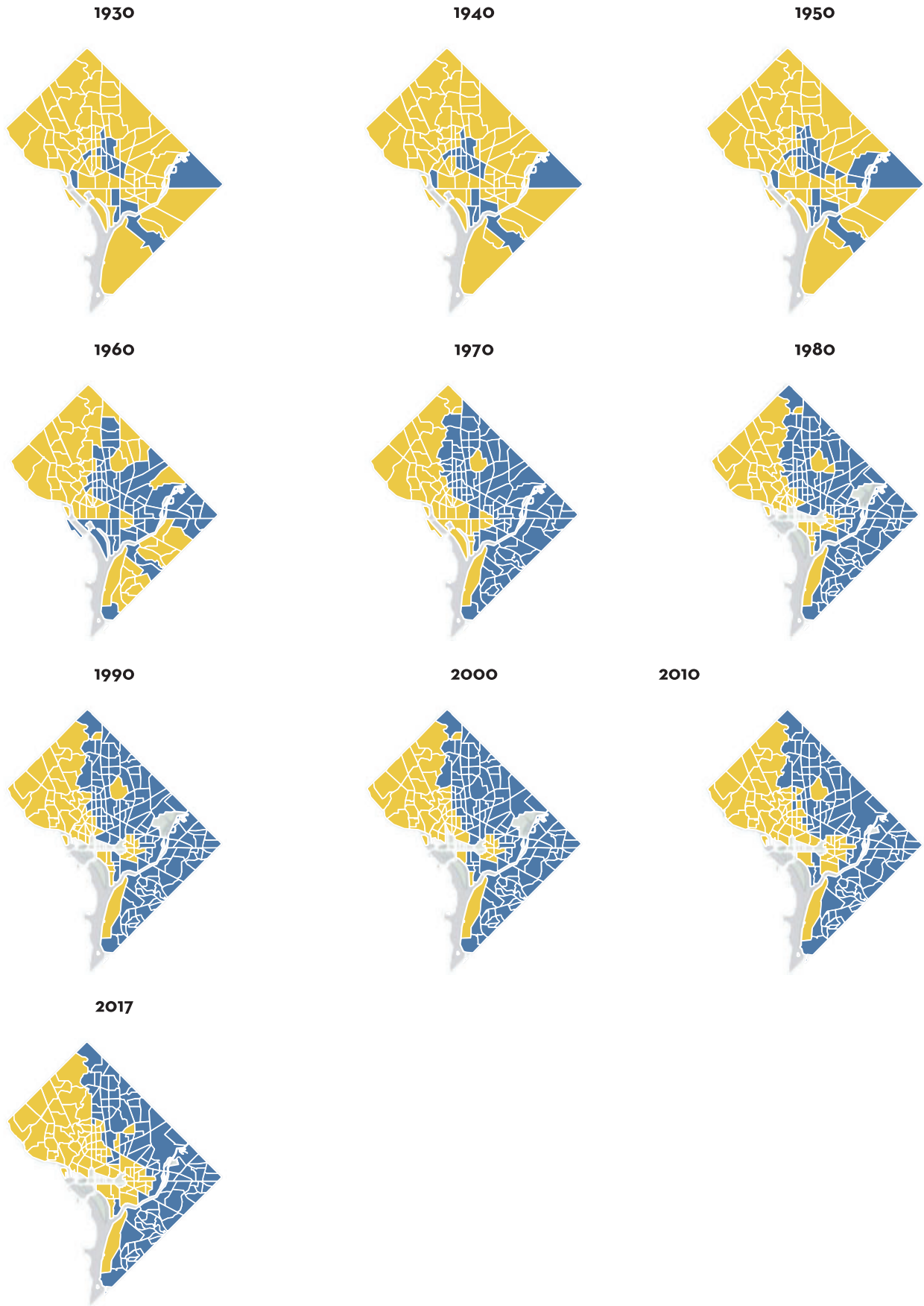
The Blue Mouse Theatre in Georgetown, 1928. Source: DC Public Library

Segregation was at its lowest point in 1930 at 57 percent, and its highest in 2000 at 78 percent. Meaning, 78 percent of blacks (or whites) would need to relocate in the District to achieve a uniform distribution between black and white residents. Since 2000, the index has trended downwards as the city's population began growing again. In 2017, racial segregation was at 67 percent. Although declining somewhat, the data points to persistent racial segregation in the District.

The maps in **Figure 1** show the spatial distribution of the population from 1930-2017 for the two majority racial groups, black and white. The census tracts were assigned based on the majority population of black or white in each tract. The concentration of black and white populations by decade mirrors the rise and fall of each population group over the decades and provides some evidence of the impacts of the selected causes of segregation listed above. More so, the maps depict the concentration of the black population East of the River in Wards 7 and 8 beginning in 1960. Today, there is a solid residential east-west divide between the District's black and white residents.

**Figure 1. Majority Racial Population Distribution in the District of Columbia by Census Tract, 1930 to 2017**

■ Majority Black    ■ Majority White



Source: DC Office of Planning Historical Census Data; ACS 2013-2017

### Education Segregation

The massive effort to desegregate public schools across the United States was a major goal of the Civil Rights Movement. Since the 1930s, lawyers from the National Association for the Advancement of Colored People (NAACP) strategically brought local lawsuits to court, arguing that separate was not equal and that every child, regardless of race, deserved a first-class education. These lawsuits were combined into the landmark *Brown v. Board of Education* Supreme Court case that outlawed segregation in schools in 1954. But most segregated schools were not integrated until many years later<sup>24</sup>.

While *Brown v. Board of Education* and many other legal cases broke down the official barriers for African Americans to gain an equal education, achieving this ideal has never been easy or simple. The debate continues today among policy makers, educators, and parents about how to close the achievement gap between black and white children.

This analysis focuses on spatial educational attainment of residents which may be as a result of decades of school segregation. Past research applying the dissimilarity index to educational attainment found that differences between blacks and whites increase as geographic segregation

**Table 2. Education Dissimilarity (Segregation) in DC, 1940 to 2017**

Year	Population	No College	College	Index
1940	663,091	337,204	88,317	34%
1950	802,178	399,474	125,410	30%
1960	763,956	341,360	119,437	36%
1970	756,379	300,478	122,555	42%
1980	683,333	122,965	165,559	60%
1990	606,900	196,622	212,509	45%
2000	572,059	164,418	220,117	46%
2008-2012	584,407	131,610	225,955	54%
2013-2017	672,391	130,616	285,024	44%

Source: DC Office of Planning Historical Census Data; ACS 2013-2017

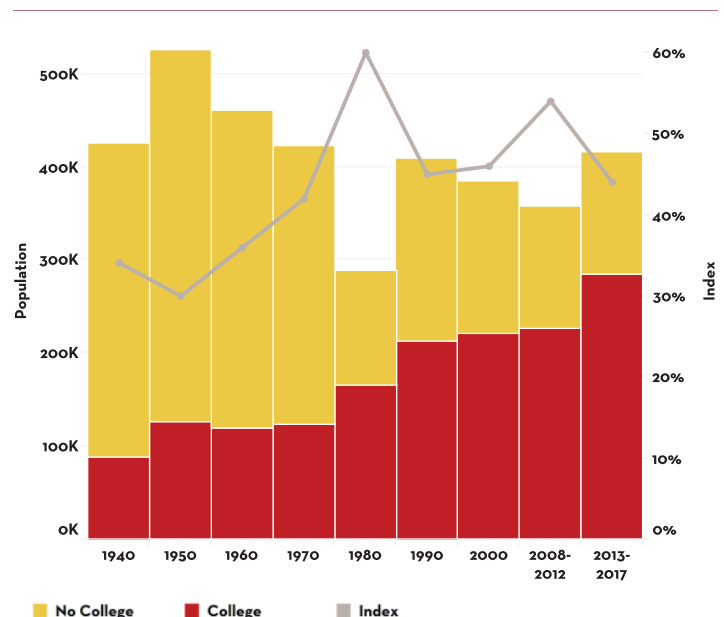
increases<sup>6,8</sup>. Census data from 1940 to 2017 indicates an increasing degree of education dissimilarity (education segregation) between District of Columbia population with less than or equal to 12 years of education (no college) and those with post-secondary schooling (college).

**Table 2** and **Figure 2** show the following:

- Education segregation was at its lowest point in 1950 at 30 percent, and at its highest point in 1980 at 60 percent. Meaning, 60 percent of either group (college or no college) would need to relocate around the District to achieve a uniform distribution of educational attainment.
- The data for 2017 shows the education segregation index is 44 percent.
- Although education segregation has trended generally downward since 1980, as compared to 1940, the District is more segregated even as the percentage of the population with college degree increases.

The maps in **Figure 3** show how educational attainment spatially evolved in the District over the last 87 years. Census tracts with the majority of their population having earned a college degree grew dramatically beginning in 1960s, but again, there

**Figure 2. Education Dissimilarity (Segregation) in DC, 1940 to 2017**

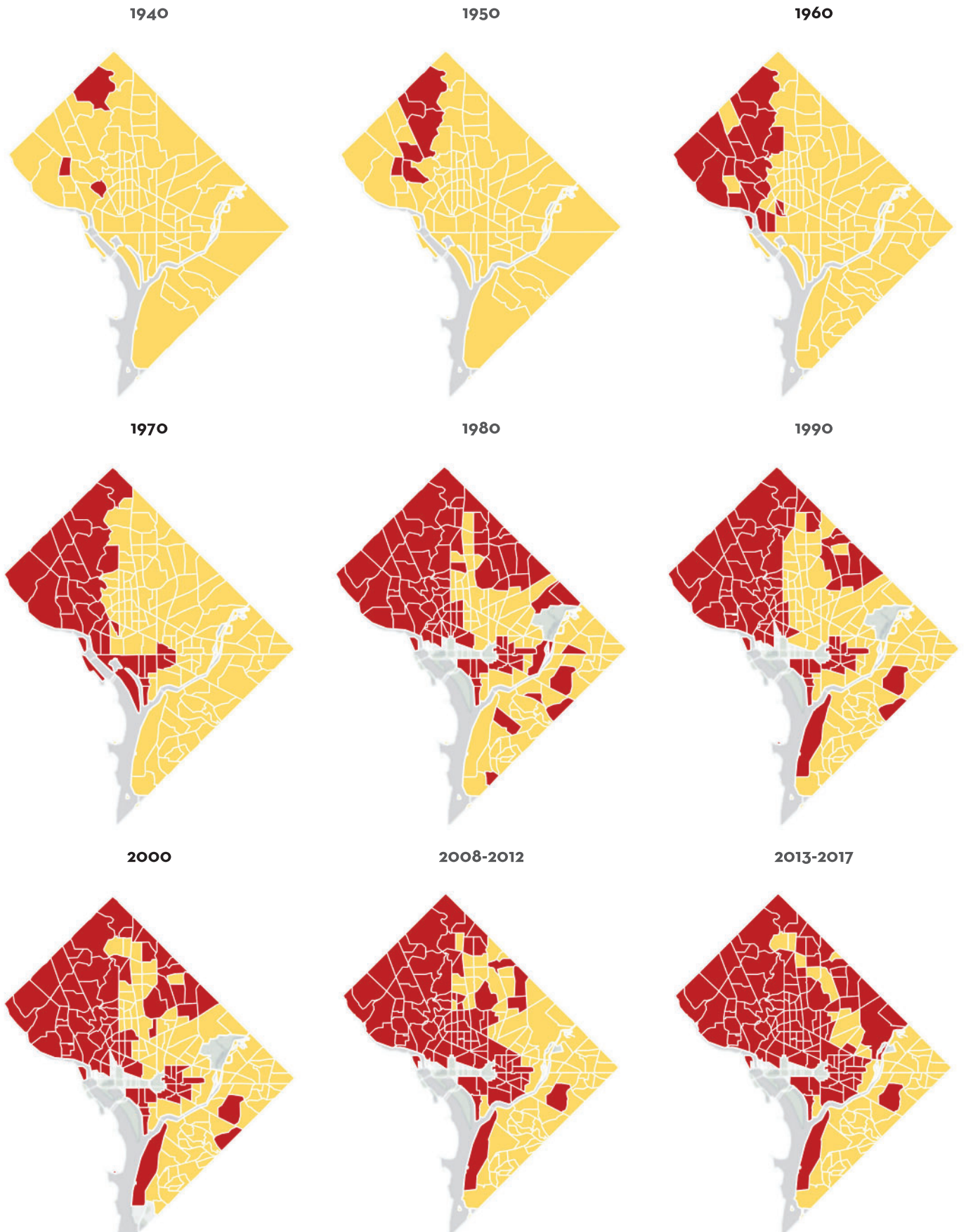


Source: DC Office of Planning Historical Census Data; ACS 2013-2017

**Figure 3. Educational Attainment Distribution in DC by Census Tract, 1940 to 2017**

■ Majority College Education

■ Majority No College Education



Source: DC Office of Planning Historical Census Data; ACS 2013-2017

is an east-west divide, with higher concentrations of residents in census tracts without college education concentrated in Wards 7 and 8 and smaller concentrations in Wards 4 and 5. The 2013-2017 data indicate some shrinkage in the number of census tracts where the majority were without a college education which could be a result of more educated people replacing less educated people in the area.

### Income Segregation

Over the last four decades income inequality in the United States accelerated significantly. According to the Congressional Budget Office (CBO)<sup>25</sup>, between 1979 and 2016, average household income *before* transfers and taxes was almost 60 percent higher in 2016 than it was in 1979 in real (inflation-adjusted) terms—reflecting an average growth rate of 1.3 percent per year. That growth, however, was not the same across the income distribution. For the lowest quintile and the middle three quintiles, it was 33 percent (or 0.8 percent per year), but for the highest quintile, it was 99 percent (or 1.9 percent per year). For the top 1 percent of the income distribution, it was 218 percent (or 3.2 percent per year). Because of those differences in growth rates, income inequality was greater in 2016 than it was in 1979. However, because of the

redistributive nature of means-tested transfers (especially Medicaid benefits and a reduction in federal taxes largely from an expansion of refundable tax credits), the degree of income inequality was less after transfers and taxes than it was before.

The Stanford Center on Poverty and Inequality (2018)<sup>26</sup> found that one consequence of deepening income inequality is an increase in residential income segregation. The methodology used in the Stanford study to detect income segregation and the methodology replicated in this study categorize census tracts into five median income groups:

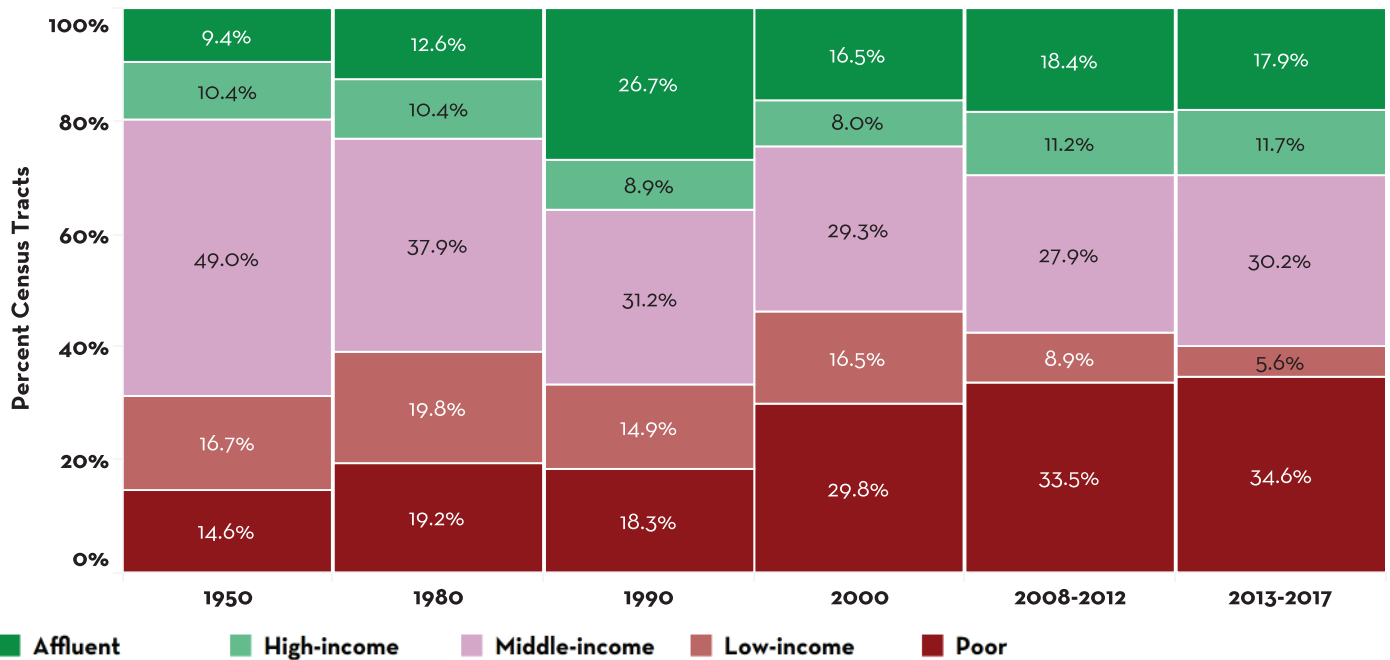
- Affluent (150% of city)
- High-Income (125%-150% of city)
- Middle-Income (80%-125% of city)
- Low-Income (67%-80% of city)
- Poor (< 67% of city)

The median household income of the District and the median household income of each census tract in the District was calculated for each period. Next, the ratio (*r*) of the census tract's median household income to that of the District was computed for each of these census tracts. Based on this ratio, each census tract was classified as affluent ( $r > 1.50$ ); high-income ( $1.25 < r < 1.50$ ); middle-income ( $0.80 < r < 1.25$ );



Frederick Douglass National Historic Site District of Columbia. Source: National Park Service

**Figure 4. Income Distribution in the District of Columbia: 1950, 1980 to 2017**



Source: US Census Bureau 1950, 1980, 1990, and 2000 decennial censuses, 2008-2012 and 2013-2017 American Community Survey (the detailed income data for 1960 and 1970 were not available)

low-income ( $0.67 < r < 0.80$ ); or poor ( $r < 0.67$ ). An affluent neighborhood, therefore, is one where the census tract median household income is at least one-and-a-half times greater than the median household income of the District. Likewise, a poor neighborhood is one where the census tract median household income is less than two-thirds of the median income of the District. These definitions make it possible to compare neighborhood income levels over time, even as the income distribution in the District changes.

**Figure 4** reveals the following for DC:

- The share of poor census tracts has grown steadily over the period. In 1950, 14.6 percent of census tracts were poor. In 2013-2017, 34.6 percent of census tracts were poor.
- Low-income census tracts declined since 2000. Low-income census tracts dropped from 16.5 percent in 2000 to 5.6 percent in 2017.
- The share of middle-income census tracts declined steadily between 1950 and 2012, with a slight tick upward by the 2013-2017 period.
- The percent of high-income census tracts has remained about the same over the last 67 years, ranging between 8.9 and 11.7 percent.

- The share of affluent census tracts grew significantly between 1950 and 1990, then dropped sharply between 1990 and 2000 but remained stable since. This share increased from 9.4 percent in 1950 to 26.7 percent in 1990, then decreased to 16.5 percent in 2000. The share in the 2013-2017 period was 17.9 percent.

The maps in **Figure 5** shows the spatial distribution of households by median household income by census tract based on the five income categories defined above. Affluent and high-income households were concentrated mainly in the northwest areas of the city for all periods from 1950-2017. However, after 2000, some pockets of affluent and high-income households began appearing in other areas such as Capitol Hill and Capitol Riverfront. Middle-income households were prevalent in the central and eastern sections of the city from 1950 through 1990 but became more concentrated along the southwest and northeast corridors after 1990. Low-income households showed concentration in the downtown areas of the city in 1950 and soon spread to areas eastwards but with declining concentration beyond 2000. Households classified as poor also concentrated in the downtown core in 1950 but spread eastwards and expanded through 2017.



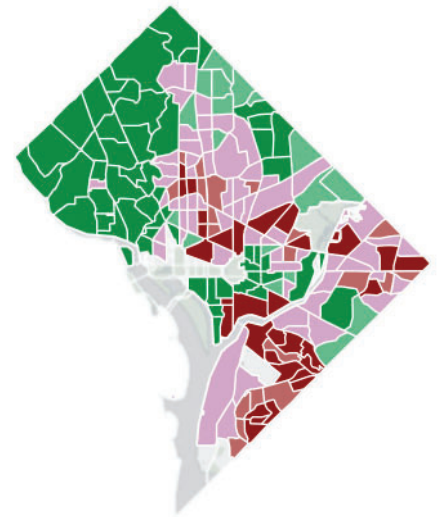
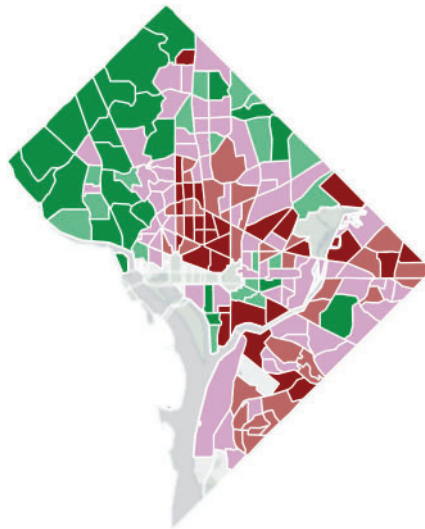
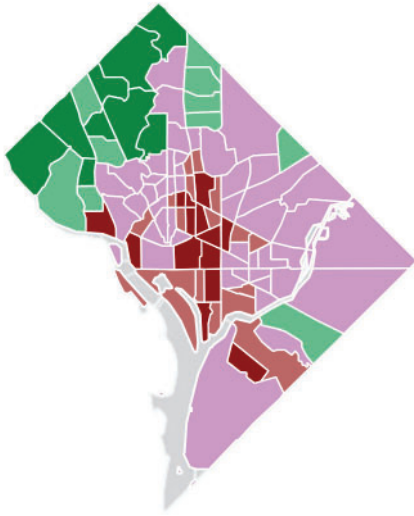
**Figure 5. Income Distribution in the District of Columbia by Census Tract: 1950, 1980 to 2017**

■ Affluent   ■ High-Income   ■ Middle-Income   ■ Low-Income   ■ Poor

1950

1980

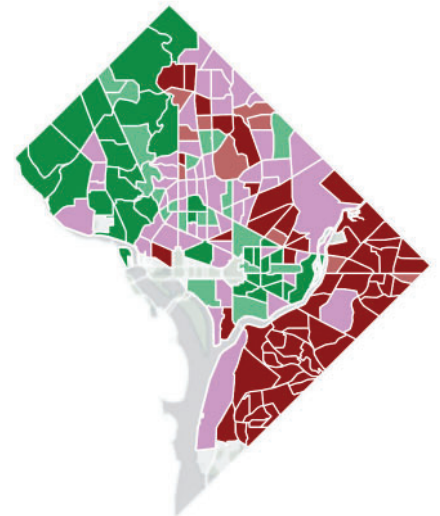
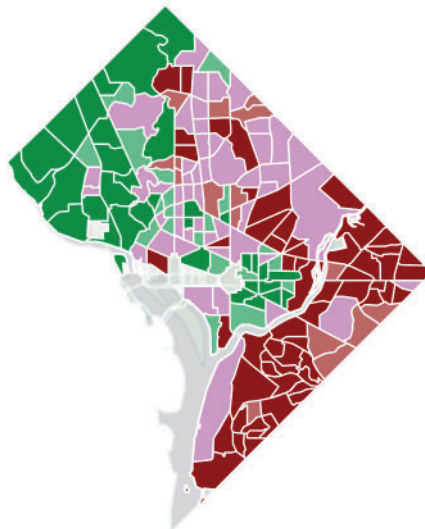
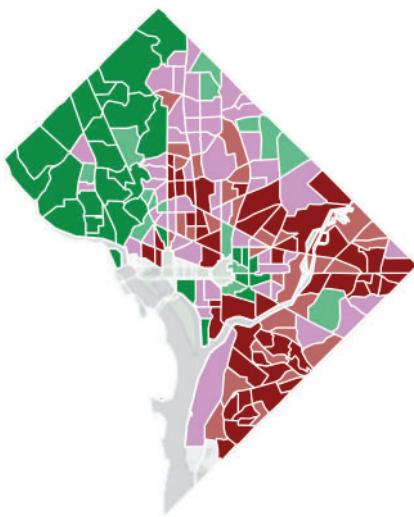
1990



2000

2008-2012

2013-2017



Source: US Census Bureau 1950, 1980, 1990, and 2000 decennial censuses, 2008-2012 and 2013-2017 American Community Survey (the detailed income data for 1960 and 1970 were not available)

## LIMITATIONS

All three measures of segregation share limitations. First, they are global measures that summarize the condition of the entire area (census tract), thus, they fail to recognize the variations at the neighborhood (or local) scale where for instance, median household income can vary widely with a census tract. Second, they are spatial measures that do not account for the non-spatial relationships between areal units; thus, swapping the entire populations between areal units will not change the index values.

Moreover, the boundaries and number of census tracts change each decade. The US Census Bureau states that census tract boundaries are delineated with the intention of being maintained over a long period of time. However, due to increased development and population growth in areas, the US Census Bureau split census tracts into new tracts to capture the new growth. Also, census tracts are occasionally merged if population declines in an area.

## COSTS OF SEGREGATION

The costs of segregation for DC's black community have been high as residential segregation correlates with many negative outcomes. Beyond restricting their freedom of residential choice, segregation has deprived black families' access to quality healthcare, wealth accumulation, education, jobs, safe neighborhoods and amenities. Between 2011-2015, life expectancy in Historic Anacostia was 19.2 years lower than that of Woodley Park (70.2 years versus 89.4 years)<sup>27</sup>. The median 2011-2015 residential sales price of a home in Ward 8 was \$593,900 less than one sold in Ward 3 (\$229,900 versus \$823,800)<sup>28</sup>. In 2015, the DC's white homeownership rate was 47.1 percent compared to that of blacks at 34.9 percent<sup>29</sup>. The percentage of individuals living in poverty in 2011-2015 was 4.4 percent in Friendship Heights neighborhood (Ward 3) compared to 19.4 percent in Hillcrest neighborhood (Ward 7).

Although findings in this paper indicate that segregation in the District of Columbia is on a declining trend in recent years, they also show that

racial segregation, educational segregation, and income segregation persist at relatively high levels in some parts of the city. Blacks are concentrated in the northeast and southeast, and whites are mainly in the northwest due mainly to deliberate decisions and investments made by the Federal Government and private real estate actors to drive blacks, to what was at that time, a rural and isolated parts of the District. The relative affluence of the northwest parts of the city and the growth of the middle class in the central part of the city have not spread eastwards. Far Southeast also continues to see lower levels of educational attainment compared to the rest of the city. On the bright side, most census tracts in the northeast section of the city saw increasing levels of educational attainment.

Resistance to fair housing and other public and private integration efforts persist. It is incumbent on the District of Columbia policy makers and other entities to break the persistent patterns of segregation that have been embedded systemically in the city for over a century. Mayor Bowser's goal to increase affordable housing and the equitable distribution goals presented in the Housing Equity Report to build more affordable housing in Northwest will likely bring some improvement. Moreover, through the District's Housing Framework for Equity and Growth initiative, the District government is connecting housing programs across several different agencies into an overarching framework to enable the city to improve its tracking of progress toward housing equity, assess and enhance effectiveness of policies and programs, and create new holistic tools that can help make the entire city more diverse and equitable.

## CONCLUSIONS

In 1968, the U.S. Supreme Court ruled that racial discrimination in housing was illegal. The same year, Congress passed the Fair Housing Act, providing specific penalties for housing discrimination along with mechanisms for addressing individual complaints of discrimination. These two legal developments laid the foundation for a growing social movement against segregation that has brought limited but real gains nationwide more than fifty years later. Even

though the struggle for an integrated society may be a difficult one, it is incumbent on both public and private organizations to utilize the tools available to them, sustain the progress, though limited, and continue that movement towards becoming a more integrated society.

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